No. 8200158

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Pure-Seed Testing, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (7 U.S.C. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.).

INTERMEDIATE RYEGRASS

'3CN'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington *this* 31st *day of* May *in the year of our Lord one thousand nine hundred and* eighty-four.

Attest:

Commissioner
Plant Variety Protection Office
Livestock, Meat, Grain & Seed Div.
Agricultural Marketing Service

Secretary of Agriculture

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

FORM APPROVED
OMB NO. 40-R3822

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY	1b. VARIETY NAME	FOR OFFICIAL USE ONLY
3CN	3CN 88-48 4/11/84	PV NUMBER 8200158
2. KIND NAME: Intermediate ryegrass	3. GENUS AND SPECIES NAME: Lolium X hybridum	FILING DATE: 8/24/82 — TIME: 12:30 P.M.
4. FAMILY NAME (BOTANICAL): Gramineae	5. DATE OF DETERMINATION: August, 1981	FEE RECEIVED: $ 500.00 / $ 250.00 — DATE: 8/24/82 / 5/7/84
6. NAME OF APPLICANT(S): Pure-Seed Testing, Inc.	7. ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*): P. O. Box 449, 73 West G Street, Hubbard, OR 97032	8. TELEPHONE AREA CODE AND NUMBER: 503-981-7333

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (*Corporation, partnership, association, etc.*)	10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION	11. DATE OF INCORPORATION
Corporation	Oregon	6/3/74

12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS:
Dr. William A. Meyer, Pure-Seed Testing, Inc.
P. O. Box 449, Hubbard, OR 97032

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- [X] 13A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
- [X] 13B. Exhibit B, Novelty Statement.
- [X] 13C. Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*
- [X] 13D. Exhibit D, Additional Description of the Variety.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a). (If "Yes," answer 14B and 14C below.)* [ ] YES [X] NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?	14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED?
[X] YES [ ] NO	[X] FOUNDATION [X] REGISTERED [X] CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? [ ] YES [X] NO *(If "Yes," give name of countries and dates.)*

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? [ ] YES [X] NO *(If "Yes," give name of countries and dates.)*

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? [X] YES [ ] NO

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

8/20/82
(DATE)

William A Meyer
(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

FORM GR-470 (1-78)

8200158

EXHIBIT A.

ORIGIN AND BREEDING HISTORY OF
3CN INTERMEDIATE RYEGRASS

3CN intermediate ryegrass is a 30 clone synthetic variety. Selected plants out of Oregreen intermediate ryegrass were crossed inthe greenhouse with dark colored selections of turf-type perennial ryegrass out of Citation and with other perennial ryegrass sources from old turf areas in New Jersey. One thousand plants derived from these crosses were planted in a space plant nursery after screening for resistance to stem rust. Eighty-two attractive plants displaying good seed yielding ability, dark color and excellent stem rust resistance were chosen prior to anthesis and allowed to interpollinate in isolation. The seed derived from these 82 plants was used to plant another space plant nursery. Thirty low growing, dark colored, attractive clones were selected and moved to an isolation nursery prior to anthesis. Seed produced from these 30 clones produced the first breeder seed of 3CN intermediate ryegrass.

Breeder seed of 3CN is being kept in storage to be spaced out for additional breeder seed production. Seed propagation of 3CN is limited to three generations of increase from breeder seed--one each of foundation, registered and certified.

3CN is a stable and uniform variety. No off-type plants or variants have been observed in the reproduction or multiplication of 3CN intermediate ryegrass. Breeder seed, foundation, registered and certified seed have produced turf of comparable quality and acceptable uniformity.

EXHIBIT B.

NOVELTY STATEMENT ON
3CN INTERMEDIATE RYEGRASS

3CN intermediate ryegrass most closely resembles one of its parents, Oregreen intermediate ryegrass. However, close comparisions show that the two cultivars differ in a number of characteristics as follows:

1. 3CN has a darker blue-green color described as 137B using the Royal Horticulture Society Chart (RHS) while Oregreen is lighter and described as 147B (Table 2).
2. 3CN is 2 days earlier maturing than Oregreen (Table 4).
3. 3CN has a mature height at least 7 cm shorter than Oregreen (Table 7).
4. 3CN has a reduced vertical growth rate compared to Oregreen, being 25% less after 60 days (Table 6).

FORM APPROVED: OMB NO. 40-R3712

FORM GR-470-36
(9-76)

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

OBJECTIVE DESCRIPTION OF CULTIVARS
RYEGRASS
(Lolium spp.)

NAME OF APPLICANT(S)	VARIETY NAME OR TEMPORARY DESIGNATION
Pure-Seed Testing, Inc.	3CN Intermediate ryegrass
ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code)*	FOR OFFICIAL USE ONLY
P. O. Box 449, 73 West G Street Hubbard, OR 97032	PVPO NUMBER 8200158

Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in first box (e.g. [0][8][9] or [0][9])when number if either 99 or less or 9 or less. Descriptions of characters should represent those that are typical for the variety. Ranges may be given also. Measured data should be for SPACED PLANTS. Give additional description for all characteristics that cannot be adequately described in the form below. Append all petrinent comparative trial and evaluation data.

1. SPECIES:

[4] 1 = L. MULTIFLORUM (annual or Italian: includes Westerwoldicum) 2 = L. PERENNE (perennial) 3 = L. RIGIDUM (includes Wimmera)
4 = HYBRID (of species) Lolium X hybridum 5 = OTHER *(Specify)* _____

2. PLOIDY:

[1] 1 = DIPLOID 2 = TETRAPLOID 3 = OTHER *(Specify)* _____

3. DURATION:

[2] 1 = ANNUAL OR BIENNIAL 2 = SHORT LIVED PERENNIAL (3-4 years) 3 = PERENNIAL (more than 4 years)

STANDARD CULTIVARS

1 = GULF 2 = WIMMERA 62 3 = LINN 4 = PELO
5 = NORLEA 6 = ABERYSTWYTH S-23 7 = MANHATTAN 8 = PENNFINE

4. MATURITY (50% HEADED) Use standards from above for comparison: Table 4.

[4] 1 = VERY EARLY 3 = EARLY 5 = MEDIUM 7 = LATE 9 = VERY LATE

[1][5] DAYS EARLIER THAN ..... [7] STANDARD CULTIVAR

[ ][ ] DAYS LATER THAN ..... [ ] STANDARD CULTIVAR

5. MATURE PLANT HEIGHT (Use standard cultivars from above) : Table 5.

[1][0][7] CM. HIGH [ ][ ][ ] CM. SHORTER THAN ..... [ ] STANDARD CULTIVAR

[ ][3][6] CM. TALLER THAN ..... [7] STANDARD CULTIVAR

6. PERCENT WINTER DAMAGE (estimated as percent of the area appearing dead). Use standard cultivars from above for comparison:

[ ][ ][ ] PERCENT DAMAGE OF APPLICATION CULTIVAR

[ ][ ][ ] PERCENT DAMAGE OF ..... [ ] STANDARD CULTIVAR

7. TURF DENSITY Use standard cultivars from above: Table 3.

[2][2][5] TILLERS PER 100 SQ. CM.

[ ][9][2] LESS TILLERS PER 100 SQ. CM. THAN .... [7] STANDARD CULTIVAR

[ ][ ][ ] MORE TILLERS PER 100 SQ. CM. THAN ... [ ] STANDARD CULTIVAR

8. FLAG LEAF (at full growth) Use standard cultivars from above: Table 1.

[1][9][.5] CM. LENGTH (from ligule to tip) [ ][4][.5] MM. WIDTH (at widest point)

[ ][ ][ ] CM. SHORTER THAN ..... [ ] STANDARD CULTIVAR

[ ][7][.1] CM. LONGER THAN ..... [7] STANDARD CULTIVAR

[ ][ ][ ] MM. NARROWER THAN ..... [ ] STANDARD CULTIVAR

[ ][ ][.1] MM. WIDER THAN ..... [7] STANDARD CULTIVAR

[ ] FLAG LEAF AT BOOT STAGE: 1 = DEFLEXED 3 = RECURVED 5 = HORIZONTAL 7 = SEMI-ERECT 9 = ERECT

8200158

FORM GR-470-36 (2-76)

STANDARD CULTIVARS

1 = GULF | 2 = WIMMERA 62 | 3 = LINN | 4 = PELO
5 = NORLEA | 6 = ABERYSTWYTH S-23 | 7 = MANHATTAN | 8 = PENNFINE

9. LEAVES:

[2] VERNATION: 1 = LEAVES ROLLED IN YOUNG SHOOTS; 2 = LEAVES SEMI-ROLLED (folded with rolled edges); 3 = LEAVES FOLDED IN YOUNG SHOOTS

Table 2. Royal Hort. Color Chart

[8][0] % PLANTS WITH ANTHOCYANIN IN LOWER LEAF SHEATH

[3] FOLIAGE COLOR: 137B — 1 = YELLOW GREEN; 2 = MEDIUM GREEN; 3 = BLUE GREEN

10. SPIKE: 88 H 4/11/84

[2][6][1] ~~[2][4][5]~~ MM. SPIKE LENGTH (tip to internode below lowest floret)

Table 7.

[ ][ ] MM. SHORTER THAN ..... [ ]
[1][6] MM. LONGER THAN ..... [7] } USE STANDARD CULTIVARS FROM ABOVE

[ ][ ][ ][ ] MG. PER TEN SPIKES (trimmed to internode below lowest floret)

[ ][ ][ ][ ] MG. LIGHTER PER TEN SPIKES THAN ..... [ ]
[ ][ ][ ] MG. HEAVIER PER TEN SPIKES THAN ..... [ ] } USE STANDARD CULTIVARS FROM ABOVE

[ ][ ] FLORETS PER SPIKELET

PERCENTAGE OF PLANTS WITH:

RACHIS: [ ][ ][ ] % SMOOTH [ ][ ][ ] % ROUGH

SPIKE COLOR: [ ][ ][ ] % GREEN [ ][ ][ ] % PURPLE

LEMMA: [ ][5][0] % AWNED [ ][2][7] MM. AWN LENGTH

[3][8] MM. GLUME LENGTH [ ] 1 = SPIKELET LENGTH NEARLY EQUAL TO OUTER GLUMES; 2 = SPIKELET LENGTH MUCH LONGER THAN OUTER GLUMES

11. COLEOPTILE:

[ ][ ][ ] % PLANTS WITH ANTHOCYANIN IN COLEOPTILE

12. ANTHER COLOR:

[ ][ ][ ] % PLANTS WITH WHITE ANTHERS [ ][9][0] % PLANTS WITH YELLOW ANTHERS

[ ][1][0] % PLANTS WITH PURPLE ANTHERS

13. ROOT AND PLANT CHARACTERS:

[1][0][0] % PLANTS WITH PROSTRATE GROWTH HABIT [ ][9][0] % PLANTS WITH FLUROESCENT ROOTS

[ ][ ][ ] % PLANTS WITH UPRIGHT GROWTH HABIT

14. SEED:

1 [8][4][9] MG. PER 1,000 SEED [ ][5][6] MM. TOTAL LENGTH OF 10 SEEDS [ ][1][3] MM. TOTAL WIDTH OF TEN SEEDS

5

8200158

FORM GR-470-36 (2-76)

15. DISEASE (0 = NOT TESTED, 2 = HIGHLY SUSCEPTIBLE, 4 = MODERATELY SUSCEPTIBLE, 6 = MODERATELY RESISTANT, 8 = HIGHLY RESISTANT):

6	CROWN RUST (Puccinia coronata)		DOLLAR SPOT (Sclerotinia)		BROWN PATCH (Rhizoctonia)
6	LEAF SPOT (Helminthosporium)		MILDEW		OTHER *(Specify)*
	SNOW MOLD (Typhula)	4	RED THREAD (Corticium)		

16. INSECT (0 = NOT TESTED, 2 = HIGHLY SUSCEPTIBLE, 4 = MODERATELY SUSCEPTIBLE, 6 = MODERATELY RESISTANT, 8 = HIGHLY RESISTANT):

[ ] *(Specify)* _____

17. GIVE RESEMBLANCE VALUE IN LEFT COLUMN AND VARIETY CODE NUMBER IN RIGHT COLUMN FOR VARIETY WITH WHICH COMPARISON IS MADE (1 = LESS THAN, 2 = SAME AS, 3 = MORE ERECT, MORE RESISTANT, DENSER, MORE PERSISTENT, DARKER OR GREATER HEIGHT.):

RESEMBLANCE	CHARACTER	SIMILAR VARIETY	
3	PLANT HABIT (erectness)	7	1 = GULF
1	TILLERING	7	2 = WIMMERA 62
1	WINTER HARDINESS	7	3 = LINN
2	HIGH TEMP. STRESS RESISTANCE	7	4 = PELO
1	TURF PERSISTENCE	7	5 = NORLEA
2	PLANT COLOR	7	6 = ABERYSTWYTH S-23
3	VERTICAL SEEDLING GROWTH RATE	7	7 = MANHATTAN
1	CROWN DENSITY	7	8 = PENNFINE
3	MOWER SHREDDING RESISTANCE	7	

18. GIVE AREA OF ADAPTATION AND INTENDED USE: Overseeding dormant bermudagrass in So. U.S.

19. GIVE AREA TEST RESULTS PRESENTED FROM: Oregon, Misssissippi, and California

COMMENTS:

EXHIBIT D.

ADDITIONAL DESCRIPTION OF
3CN INTERMEDIATE RYEGRASS

3CN intermediate ryegrass is an improved ryegrass for overseeding dormant bermudagrass throughout the southern U.S. The richer, darker color of 3CN makes it an improvement over Oregreen for overseeding while it still has the early transition characteristic's of Oregreen in the spring. These improvemed qualities have been noted in turf trials in Mississippi, Palm Springs, CA (Table 7), North Carolina and Auburn, AL. 3CN has shown moderately good resistance to leaf spot (Dreschlera spp.) and other diseases important for overseeded turf in the southern U.S. It has shown very good resistance to stem rust in Western Oregon.

3CN has been shown to be somewhat less cold tolerant than the turf-type perennial ryegrasses in overseeding trials, but much better than annual ryegrass.

8200158

TABLE 1.

MORPHOLLOGICAL MEASUREMENTS JULY, 1982 ON
RYEGRASS SEED YIELD TRIALS SEEDED FALL, 1981
NEAR HUBBARD, OREGON

ENTRY	SPIKE LENGTH CM	STANDARD ERROR OF MEAN	FLAG LEAF LENGTH CM	STANDARD ERROR OF MEAN	FLAG LEAF WIDTH MM	STANDARD ERROR OF MEAN	TILLERS/ 3½" ROW	STANDARD ERROR OF MEAN
Oregreen	27.3	0.39	19.5	0.49	4.5	0.18	79	3.8
3CN	26.1	0.47	19.5	0.52	4.5	0.21	97	3.1
Manhattan	24.5	0.49	12.4	0.29	4.4	0.17		

TABLE 2.

COLOR OBSERVATION AUGUST, 1982
USING ROYAL HORTICULTURAL CHARTS IN TURF TRIALS
AND SEED YIELD TRIALS NEAR HUBBARD, OREGON

ENTRY	1980 TURF TRIAL	1981 TURF TRIAL	1981 SEED YIELD TRIAL
Oregreen	147B	147B	147B
3CN	137B	137B	137B

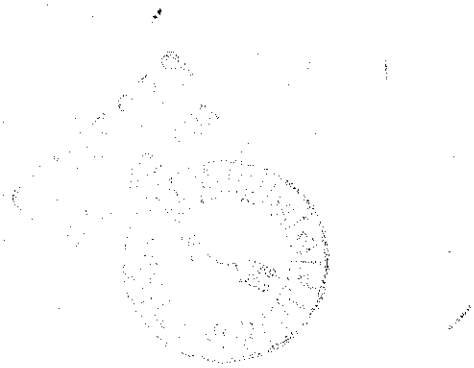

TABLE 4.

OBSERVATIONS ON RYEGRASS SEED YIELD TRIALS
SEEDED NEAR HUBBARD, OR FALL, 1980 AND FALL, 1981.

	50% HEADING DATES	
	FALL 1980 TRIAL	FALL 1981 TRIAL
ENTRY	1981 DATE	1982 DATE
Oregreen	5/26	5/27
3CN	5/24	5/25

TABLE 5.

MORPHOLLIGICAL MEASUREMENTS ON RYEGRASSES
IN SEED YIELD TRIALS NEAR HUBBARD, OR
SEEDED FALL, 1980 AND FALL, 1981

	1981 DATA		1982 DATA	
ENTRY	PLANT HEIGHT CM	STANDARD ERROR OF MEAN	PLANT HEIGHT CM	STANDARD ERROR OF MEAN
Oregreen	110.4	2.0	115.3	0.87
3CN	91.2	1.2	107.2	0.75
Manhattan			70.9	0.49

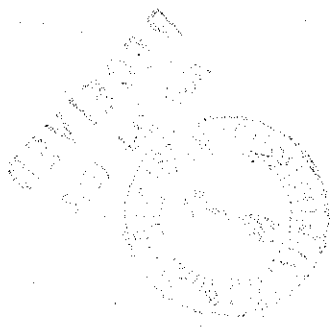

TABLE 6.

HEIGHT OF SEEDLINGS OF RYEGRASS
IN YIELD TRIALS SEEDED NEAR HUBBARD, OR 10/16/81.
MEASUREMENTS TAKEN 60 DAYS AFTER PLANTING

ENTRY	HEIGHT CM
Oregreen	7.4
3CN	5.6
LSD (0.05)	1.12

TABLE 7.

VISUAL PERFORMANCE SCORES FOR RYEGRASSES
FOR OVERSEEDING ONTO A BERMUDAGRASS PUTTING GREEN
IN MISSISSIPPI STATE, MS DURING THE WINTER OF 1980-1981
AND OVERSEEDED FAIRWAY TURF IN PALM SPRINGS, CA 1982.

ENTRY	MISSISSIPPI AVE. OF 9 WINTER OBSERVATIONS 9-1 (9=best)	PALM SPRINGS 3/24/82 9-1 (9=best)
Oregreen	4	4
3CN	5	5
Derby	5	6